REMARKS

Claims 1-11 and 45-47 are pending. Claims 1-11 stand rejected under 35 U.S.C. § 103(a) and Claims 45-47 stand objected to as depending from a rejected base claim. Reconsideration of the claims in light of the remarks presented below is respectfully requested.

Rejection under 35 U.S.C. § 103(a)

Claims 1-11 are rejected under 35 U.S.C. 103(a) as unpatentable over Bauer et al., US Patent No. 6,096,497 ("Bauer") in view of Everhart et al., 6060,256 ("Everhart"). In particular, the Examiner asserts that Bauer teaches a biosensor comprising a metallic surface, an asymmetric monolayer, an insulator monolayer, and electroconduit forming species and that Everhart teaches self assembled monolayers with oligonucleotides. Applicants respectfully traverse this rejection for the reasons discussed below.

Bauer teaches a biosensor optionally comprising either a self-assembled monolayer (SAM) or a mixed SAM in which one of the species comprises an enzyme. See column 5, line 48 through column 6, line 41, column 9, lines 38-52, and Figure 1. As shown in Figure 1 and as described in column 9, lines 38-52, the SAM taught by Bauer comprises a first SAM (**20**) formed on one side of a base layer (**10**) that is connected to the based layer by siloxane linkages. A second SAM layer (**40**), formed on top of the silver layer (**30**) and connected to the silver layer by direct chemical sulfur linkages. The second SAM layer (**40**) is a mixed SAM made up of two molecules. A first molecule that is terminated with alcohol groups and a second molecule that is terminated with a group that is reactive with enzyme amino groups such that an enzyme of interest may be attached. Thus, Bauer teaches mixed SAMs in which one of the two SAM forming species comprises an enzyme.

In contrast to the Examiner's contention that Everhart teaches oligonucleotide modified SAMs, Applicants respectfully point out that the cited example (Example 5, Column 12, Line 35 to Column 13, Line 12) explicitly teaches that the disclosed oligonucleotides are not attached to SAMs. Example 5 describes an experiment "performed to determine if the thiolated protein or oligonucleotide binders of this invention form a protective SAM on gold." (Column 12, Lines 41-43). In the experiment, several thiolated protein and thiolated oligonucleotide binders were

compared to a known SAM forming species, hexadecane thiol (HDT), and only HDT was shown to form a SAM on gold. As pointed out by Everhart, "This demonstrates that unlike HDT, the thiolated binders used to prepare the optical diffraction biosensors do not form a protective SAM." (Column 12, Lines 64-67). While the Examiner also cites to the "whole doc." as teaching SAMs containing oligonucleotides, Applicants respectfully point out that at Everhart explicitly teach just the opposite, "The present invention does not utilize self-assembling monolayers..." (Column 2, Lines 14-15). As the Examiner is aware, art that teaches away from an invention cannot be used as the basis of an obviousness rejection of that invention. *See, W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 220 USPQ 303 (Fed Cir. 1983).

In contrast to both Bauer and Everhart, Claims 1-11 are directed to metallic surfaces comprising a SAM forming species to which a nucleic acid capture binding probe is attached and asymmetric monolayer forming species (AMFS). Thus, the present invention discloses a metallic surface comprising two components: 1) a first component comprising a SAM forming species comprising nucleic acid capture probes; and 2) a second component comprising an AMFS.

To establish a *prima facie* case of obviousness the prior art reference (or references when combined) must teach or suggest all the claim limitations. In addition, the teaching or suggestion to make the claimed combination must be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) M.P.E.P. §2143.

As pointed out above, Everhart does not disclose SAMs containing oligonucleotides. In addition, the Examiner has already stated that Bauer does not teach SAMs with oligonucleotides. (Office Action Mailed 10/07/03, page 3). Accordingly, the cited art fails to teach or suggest the instant claims and Applicants respectfully request withdrawal of the rejection under 35 U.S.C. 130(a).

CONCLUSION

Applicants respectfully submit that the claims are in condition for allowance and early notification to that effect is respectfully requested. Please direct any calls in connection with this application to the undersigned attorney at (415) 781-1989.

Respectfully submitted,

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